

**I. Telephone Interview**

The courtesies extended to Applicants' representative by Examiner Hiruy during the telephone interview held February 16, 2006, to clarify certain issues in the Office Action, are appreciated.

**II. Allowed/Allowable Subject Matter**

The allowance of claims 1-13 is appreciated. The indication of allowable subject matter in claims 16, 17, 26 and 27 is also appreciated, they being allowable if rewritten in independent form to include all of the features of their base claim and any intervening claims. Claims 16, 17, 26 and 27, as well as the remaining pending claims are in condition for allowance for the reasons discussed below.

**III. Claim Rejections Under 35 U.S.C. §112**

Claims 21-23 and 31-33 are rejected under 35 U.S.C. §112, first paragraph. The rejection is respectfully traversed.

It is alleged in the Office Action that "neither the specification nor the claims clearly show how the power generated by the motor could be negative and further the sum could be zero. It is well-known in the art that the only condition that a motor could have a zero output is when the motor is turned off. Thus, it is found by the Examiner that the teaching is not enabling to one having ordinary skill in the art."

As the rejected claims do not recite a "motor having a zero output," the relevance of the Examiner's statement is unclear. For example, claim 21 recites "a fourth sub-step of calculating a first power of said 2Y motor and a second power of said electric motor, a fifth sub-step of determining whether or not the sum of the calculated first power and said calculated second power is equal to zero, and a sixth sub-step of disconnecting, when said sum is equal to zero, said power supply from respective neutral points (M1, M2) of said first

and second three-phase coils included in said 2Y motor." Thus, there is no recitation of a motor having a zero output.

Rather, the claims specifically recite a calculation of a first power and a second power. The specification gives detailed and complete examples of calculating such powers. For example, beginning at page 20, line 10, the specification describes the CPU 184 determining whether the sum of the motor power  $P_m$  and generator power  $P_g$ , mainly  $P_m + P_g$  is zero or not. If the sum  $P_m + P_g$  is zero, control CPU 184 disconnects the DC power supply 30 from neutral points M1 and M2 to drive motors MG1 and MG2. If the sum  $P_m + P_g$  is not zero, control CPU drives motor generators MG1 and MG2 with DC power supply 30 connected to the neutral points M1 and M2.

The specification also provides detailed explanation of calculating the powers of each of the 2Y motor and the electric motor corresponding to  $P_m$  and  $P_g$ . Furthermore, because there is a relation of supply and demand between the power generator  $P_g$  and the power motor  $P_m$ , the sum of  $P_g$  and  $P_m$  can be zero when the supply and demand are balanced. It is also well-known in the art that the power of such motors may have a negative or a zero value in some cases. For example, the motor generator MG2 may be driven in the regenerative mode to produce a negative value (see page 48, line 9 through page 49, line 5 of the specification). Thus, there is ample support throughout the specification to enable the subject matter of claims 21-23 and 31-33. Thus, withdrawal of the rejection of claims 21-23 and 31-33 under 35 U.S.C. §112, first paragraph, is respectfully requested. Furthermore, as none of claims 21-23 or 31-33 are rejected over a prior art reference, the claims are believed to be in condition for allowance.

It is also alleged in the Office Action that "disconnecting the power supply from the two neutral points as suggested in claims 7 and 10 will shut the vehicle/the system

completely." As claims 7 and 10 stand allowed, the relevance of this statement in the rejection of claims 21-23 and 31-33 is irrelevant.

#### **IV. Claim Rejections Under 35 U.S.C. §103**

Claims 14, 15, 18, 19, 24, 25, 28 and 29 are rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent Application Publication 2002/0105300 to Moriya et al. ("Moriya") in view of U.S. Patent 6,023,137 to Kumar et al. ("Kumar"). The rejection is respectfully traversed.

Neither Moriya or Kumar, whether considered alone or in combination, disclose or suggest each and every feature recited in the rejected claims. For example, the combination of references fails to disclose or suggest a motor driving method for driving a 2Y motor coupled to an internal combustion engine of a hybrid vehicle and an electric motor coupled to drive wheels of said hybrid vehicle, comprising a first step of precharging a capacitor element provided on an input side of first and second inverters controlling energization of first and second three-phase motor coils respectively that are included in said 2Y motor; and a second step of driving said 2Y motor and said electric motor while further charging said capacitor element after said precharging is completed. Moreover, the combination of references fails to disclose or suggest the computer readable medium as recited in claim 24.

In rejecting claims 14 and 24, it is alleged that Moriya "shows an apparatus that has a 2Y motor (22, Fig. 10). However, Moriya fails to show how the 2Y motor is coupled to an internal combustion engine and an electric motor coupled to the drive wheels of the hybrid vehicle." To overcome the admitted deficiency, Kumar is combined for allegedly showing "a motor that is coupled to an internal combustion engine and electric traction motors that are driving wheels of the hybrid vehicle (col. 2, lines 52-67, and col. 3, lines 1-20)." Thus, the Office Action fails to allege that either Moriya or Kumar, whether considered alone or in combination disclose or suggest the features actually recited in the rejected claims. Claim 14

is a method claim specifically describing a first step of precharging a capacitor element and a second step of driving the 2Y motor and the electric motor. As the Office Action fails to set forth how the applied references are combined to disclose such features, the Office Action has fail to provide a prima facie case of obviousness. Applicants assert that the mere existence of a 2Y motor as shown in Moriya, or a motor that is coupled to an internal combustion engine and an electric traction motor, as discussed in Kumar, does not in anyway disclose or suggest the specific steps recited in the rejected claims.

During the telephone interview, Applicants representative pointed out this fact to the Examiner. The Examiner responded by referring to the Response to Arguments section at page 6, section 9 of the outstanding Office Action which asserts that "it is a common knowledge in the art that precharging and charging are similar methods."

It is never appropriate to rely on "common knowledge" in the art without evidentiary support from the record. Therefore, an assertion of common knowledge requires evidentiary support (see MPEP §2144.03). Also, deficiencies of the cited the references cannot be remedied by conclusions about what is basic knowledge or common sense. Common knowledge and common sense, even if assumed to derive from the agency's expertise, do not substitute for authority when the law requires authority. *In re: Sang-Su Lee*, 277 F.3d. 1388, 1345 (Fed. Cir. 2002). Thus, the mere allegation that a recited feature is common knowledge without further evidence does not support a conclusion of obviousness.

Moreover, the mere allegation that precharging and charging are similar methods does not preclude the patentability of the subject matter of the rejected claims as the rejection fails to support the obviousness rejection of a first step of precharging a capacitor element provided on an input side of first and second inverters controlling energization of first and second three-phase motor coils respectively that are included in the 2Y motor and a second step of driving the 2Y motor and the electric motor while further charging the capacitor

element after the precharging is completed. Accordingly, withdrawal of the rejection of claims 14, 15, 18, 19, 24, 25, 28 and 29 under 35 U.S.C. §103(a) is respectfully requested.

The combination of the references also fails to provide a prima facie case of obviousness, because there is no suggestion or motivation in either of the references or to one of ordinary skill in the art to make such a combination. Even were such a combination made, the resulting combination of references fails to disclose each and every feature recited in the rejected claims.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference. In this case, the Office Action alleges that it would have been obvious to modify the power output apparatus described in Moriya with the traction inverter for supplying power for non-traction applications of Kumar.

According to MPEP §2143, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure. If a reference's disclosure relates to the same problem as a claimed invention, that fact supports the use of the reference in an obviousness rejection. *In re Clay*, 956 F.2d 656, 659 (Fed. Cir. 1992). As neither Moriya nor Kumar relate to the same problem as this patent application, there are no facts supporting the use of the reference in an obviousness rejection. For example, Moriya seeks to address the necessity of limiting the voltage input to an inverter circuit and improve the driving efficiency of an electric motor due to limitations of the range of the input voltage (paragraph [0005] of Moriya). In contrast, Kumar seeks to address a problem that is common to initiating a pre-lube of a high horsepower diesel engine for diesel locomotives due to actuating a lubrication drive pump to force lubricant through the engine. Known problems with the system result

from the pump being driven by a three-phase, AC electric motor due to the high cost of DC to DC converters and a three face power inverter, as well as a possible preclusion of operation of the locomotive due to a single failure of either the converter or the inverter (col. 1, lines 13-56 of Kumar). Thus, neither of the applied references relates to the same problem as the subject matter of this application, i.e. providing a power output apparatus suitable for a hybrid vehicle of mechanical distribution type. Accordingly, there are no facts to support the use of the combination in an obviousness rejection.

In combining Kumar, it is alleged that Kumar relates to electric traction motors that are driving wheels of a hybrid vehicle. However, as stated above, Kumar relates to a diesel locomotive train and not to a hybrid vehicle, as that term is used in this application and is well known to those of ordinary skill in the art. When interpreting the claims during examination, the Manual of Patent Examination Procedure requires the standard of claim interpretation to give the pending claims the broadest reasonable interpretation consistent with the specification. This rule of patent examination is consistent with the holdings of *In re Prater* 415 F.2d. 1493 (Fed. Cir. 1969). Therefore, interpreting the diesel locomotive train of Kumar as being a hybrid vehicle conflicts with patent examination practice and is incorrect. Accordingly, there is no suggestion or motivation in either of the references to make the combination as proposed in the Office Action.

Claims 20 and 30 are rejected under 35 U.S.C. §103(a) as unpatentable over Moriya in view of Kumar and further in view of Nitta et al. ("Nitta"), U.S. Patent 6,203,468. The rejection is respectfully traversed.

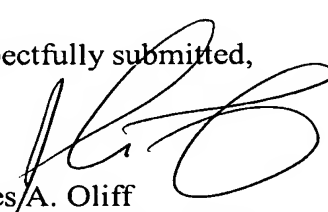
Claims 20 and 30 are allowable for their dependency on their respective independent base claims, as well as for the additional features recited therein. Accordingly, withdrawal of the rejection of claims 20 and 30 under 35 U.S.C. §103(a) is respectfully requested.

**V. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1 and 3-33 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

  
James A. Oliff  
Registration No. 27,075

  
John W. Fitzpatrick  
Registration No. 41,018

JAO:JWF/ldg

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**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

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